

Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. *(Currently Amended)* A method for networking a central controller with a first group of one or more remote devices operating in accordance with a first protocol and a second group of one or more remote devices operating in accordance with a second protocol, comprising:

 assigning one or more time slots on the same logical upstream channel during which said first group and second group of remote devices may transmit information to said central controller;

 distinguishing transmissions from said first group of remote devices from transmissions from said second group of remote devices based on said time slot assignments;

 routing said transmissions from said first group of remote devices to a first processor operating in accordance with said first protocol within said central controller;
and

 routing said transmissions from said second group of remote devices to a second processor operating in accordance with said second protocol within said central controller;

wherein said assigning includes transmitting a first group message from said central controller to said first group of remote devices via a first multicast transmission

and transmitting a second group message from said central controller to said second group of remote devices via a second multicast transmission.

2. *(Previously Presented)* The method of claim 1, further comprising:

 embedding a first identifier in transmissions from said first group of remote devices; and

 embedding a second identifier in transmissions from said second group of remote devices, wherein said transmissions from said first and second groups of remote devices are distinguished in accordance with said first and second identifiers.
3. *(Previously Presented)* The method of claim 2, wherein said transmissions from said first and second groups of remote devices comprise bandwidth requests transmitted in a contention request region.
4. *(Previously Presented)* The method of claim 3, further comprising transmitting bandwidth grants to said first and second groups of remote devices in response to said bandwidth requests.
- 5-6. *(Canceled)*
7. *(Previously Presented)* The method of claim 1, further comprising:

 receiving communications addressed for said first group and second group of remote devices;

routing communications addressed for said first group of remote devices to said first processor within said central controller;

routing communications addressed for said second group of remote devices to said second processor within said central controller; and

transmitting the processed communications to the addressed remote devices.

8. *(Currently Amended)* A method for networking a cable modem termination system with a first group of one or more cable modems operating in accordance with a proprietary protocol and a second group of one or more cable modems operating in accordance with a DOCSIS protocol, comprising:

assigning one or more time slots on the same logical upstream channel during which said first group and second group of cable modems may transmit information to said cable modem termination system;

distinguishing transmissions from said first group of cable modems from transmissions from said second group of cable modems based on said time slot assignments;

routing said transmissions from said first group of cable modems to a first processor that operates in accordance with said proprietary protocol within said cable modem termination system; and

routing said transmissions from said second group of cable modems to a second processor that operates in accordance with the DOCSIS protocol within said cable modem termination system;

wherein said assigning includes transmitting a first group message from said cable modem termination system to said first group of cable modems via a first multicast transmission and transmitting a second group message from said cable modem termination system to said second group of cable modems via a second multicast transmission.

9. *(Previously Presented)* The method of claim 8, further comprising:
 embedding a first identifier in transmissions from said first group of cable modems; and
 embedding a second identifier in transmissions from said second group of cable modems, wherein said transmissions from said first group and second group of cable modems are distinguished in accordance with said first and second identifiers.
10. *(Previously Presented)* The method of claim 9, wherein said transmissions from said first and second groups of cable modems comprise bandwidth requests transmitted in a contention request region.
11. *(Previously Presented)* The method of claim 10, further comprising transmitting bandwidth grants to said first and second groups of cable modems in response to said bandwidth requests.

12-13. *(Canceled)*

14. *(Previously Presented)* The method of claim 8, further comprising:
- receiving communications addressed for said first group and second group of cable modems;
 - routing communications addressed for said first group of cable modems to said first processor within said cable modem termination system;
 - routing communications addressed for said second group of cable modems to said second processor within said cable modem termination system; and
 - transmitting the processed communications to the addressed cable modems.
15. *(Currently Amended)* A two way communication system comprising:
- a first group of one or more remote devices that communicate with a local host in accordance with a first protocol; and
 - a second group of one or more remote devices that communicate with said local host in accordance with a second protocol,
- wherein said local host assigns one or more time slots on the same logical upstream channel during which said first and second groups of remote devices may transmit information to said local host,
- wherein said local host comprises a protocol processor for distinguishing transmissions from said first group of remote devices from transmissions from said second group of remote devices based on said time slot assignments, and
- wherein said protocol processor routes said transmissions from said first group of remote devices to a first processor operating in accordance with the first protocol and

routes said transmissions from said second group of remote devices to a second processor operating in accordance with the second protocol;

wherein said local host assigns said one or more time slots by transmitting a first group message to said first group of one or more remote devices via a first multicast transmission and transmitting a second group message to said second group of one or more remote devices via a second multicast transmission.

16. *(Previously Presented)* The two way communication system of claim 15, wherein said local host further comprises a central processor for scheduling said transmissions from said first and second groups of remote devices.

17. *(Previously Presented)* The two way communication system of claim 15, wherein said local host further comprises:

 an upstream demodulator for receiving said transmissions from said first and second groups of remote devices; and

 a downstream modulator for transmitting information to said first and second groups of remote devices.

18. *(Previously Presented)* The two way communication system of claim 17, wherein each of said remote devices comprises:

 a downstream demodulator for receiving transmissions from said local host; and

 an upstream modulator for transmitting information to said local host.

19. *(Previously Presented)* The two way communication system of claim 18, wherein each of said remote devices further comprises a media access controller for embedding service identifiers in each upstream bandwidth request, wherein said media access controller embeds a first service identifier for said first group of remote devices and a second service identifier for said second group of remote devices.

20. *(Currently Amended)* A cable television system, comprising:

a first group of one or more cable modems that communicate with a cable modem termination system in accordance with a proprietary protocol; and

a second group of one or more cable modems that communicate with said cable modem termination system in accordance with a DOCSIS protocol,

wherein said cable modem termination system assigns one or more time slots on the same logical upstream channel during which said first and second groups of cable modems may transmit information to said cable modem termination system,

wherein said cable modem termination system comprises a protocol processor for distinguishing transmissions from said first group of cable modems from transmissions from said second group of cable modems based on said time slot assignments, and

wherein said protocol processor routes said transmissions from said first group of cable modems to a first processor operating in accordance with the proprietary protocol and routes said transmissions from said second group of cable modems to a second processor operating in accordance with the DOCSIS protocol;

wherein said cable modem termination system assigns said one or more time slots by transmitting a first group message to said first group of one or more cable modems

via a first multicast transmission and transmitting a second group message to said second group of one or more cable modems via a second multicast transmission.

21. *(Previously Presented)* The cable television system of claim 20, wherein said transmissions from said first and second groups of cable modems comprise transmissions in a grant region.

22. *(Previously Presented)* The cable television system of claim 20, wherein said cable modem termination system further comprises a central processor for scheduling said transmissions from said first and second groups of cable modems in response to bandwidth requests from said first and second groups of cable modems.

23. *(Previously Presented)* The cable television system of claim 20, wherein said cable modem termination system further comprises:

 an upstream demodulator for receiving said transmissions from said first and second groups of cable modems; and

 a downstream modulator for transmitting information to said first and second groups of cable modems.

24. *(Previously Presented)* The cable television system of claim 23, wherein each of said cable modems comprises:

 a downstream demodulator for receiving transmissions from said cable modem termination system; and

an upstream modulator for transmitting information to said cable modem termination system.

25. *(Previously Presented)* The cable television system of claim 24, wherein each of said cable modems further comprises a media access controller for embedding service identifiers in each upstream bandwidth request, wherein said media access controller embeds a first service identifier for said first group of cable modems and a second service identifier for said second group of cable modems.

26. *(Previously Presented)* The method of claim 1, wherein said distinguishing step comprises distinguishing transmissions in a grant region from said first group of remote devices from transmissions in the grant region from said second group of remote devices based on said time slot assignments.

27. *(Previously Presented)* The method of claim 8, wherein said distinguishing step comprises distinguishing transmissions in a grant region from said first group of cable modems from transmissions in the grant region from said second group of cable modems based on said time slot assignments.

28. *(Previously Presented)* The two way communication system of claim 15, wherein said transmissions from said first and second groups of remote devices comprise transmissions in a grant region.

29. *(Previously Presented)* The two way communication system of claim 19, wherein said local host distinguishes transmissions in a request contention region from said first group of remote devices from transmissions in the request contention region from said second group of remote devices in accordance with said first and second identifiers.

30. *(Previously Presented)* The cable television system of claim 25, wherein said cable modem termination system distinguishes transmissions in a request contention region from said first group of cable modems from transmissions in the request contention region from said second group of cable modems in accordance with said first and second identifiers.